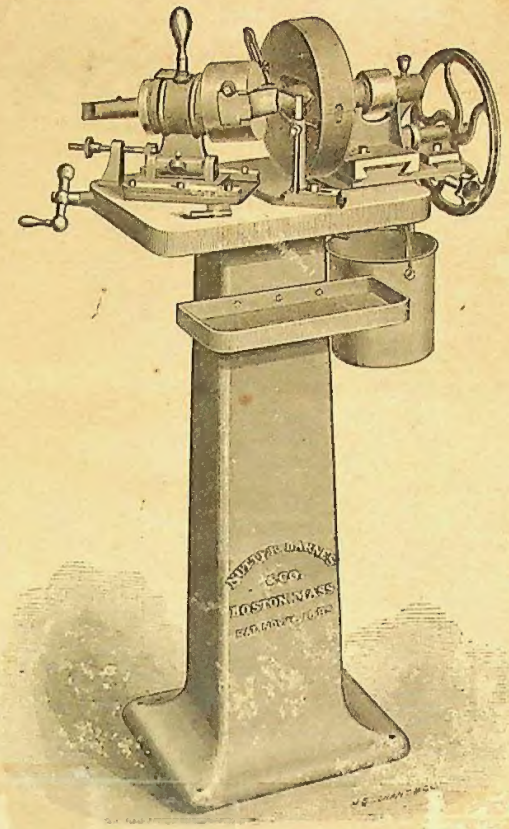
Improved Twist Drill Grinder.

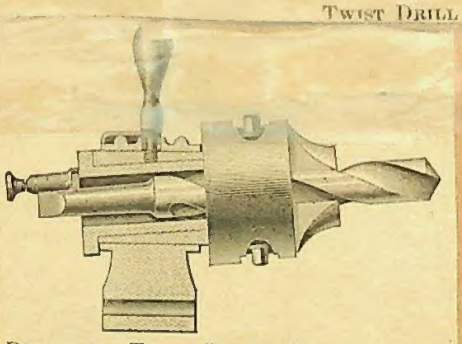
The engravings on this page and on page 2 represent a machine for grinding twist drills, now being put on the market by Hill, Clarke & Co., Boston, Mass.

It appears to be simple, and easy of adjustment. The grinding-wheel is seven inches in diameter, and has a reciprocating movement of ¾ of an inch, which gives a uniform wear to the wheel. It is run in a close case, and supplied with water from a pump which works automatically. The frame on which the wheel is mounted has a swivel motion, by which almost any desired angle can be obtained.

With this machine the chuck is not depended upon to hold the drill central, as it is supported at or near the point by a side guide-rest while being ground, which insures its being ground true and central from the outside. The drill being placed in the chuck so as to bring the cutting-lips in a proper position with the grinding-wheel, it is fastened to the chuck jaws, and the chuck and eccentric sleeve are locked together; they are then rotated by hand bodily on the guide-rest, and as the drill rises and falls on the rest, at the same time it receives a lateral motion, which gives the proper clearance to the back of the drill. [illegible] the lip operated on is properly ground, the drill [illegible] from the wheel—the back-and-forth movement being determined by means of a gauge on the screw—the chuck sleeve and eccentric are unlocked, and the chuck turned half around by means of an index. This movement brings the other lip of the drill in position to be ground. The wheel should run 2,800 revolutions per minute.



TWIST DRILL GRINDER.



DETAIL OF TWIST DRILL GRINDER.—SEE PAGE 1.